

REMARKS

The last Office Action of March 3, 2006 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-9 are pending in the application. Claim 1 has amended. No claims have been added or canceled. No amendment to the specification has been made. No fee is due.

Claims 1 and 9 are rejected under 35 U.S.C. §102(b) as being anticipated by McWilliams et al. (US 5,310,993).

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over McWilliams ('993) in view of Petri et al. (US 6,304,165).

Claims 3, 4 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McWilliams ('993) in view of Bowling (US 4,008,454).

Claims 3, 4 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McWilliams ('993) in view of Bowling and further in view of Ebert (US 4,164,642).

Claims 6 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McWilliams ('993) in view of Bowling (US 4,008,454) and further in view of McWilliams (US 4,665,307).

In order to clearly set forth the features of the present invention and to clearly distinguish the present invention from the McWilliams reference, applicant has amended claim 1 by setting forth that the engagement between the at least one movable switching contact and the stationary contacts is substantially independent of thermal expansion of the switch housing. Support therefore can be found in paragraph [0011].

Claim 1 is directed to a temperature sensor for a radiant heating unit formed of a heating coil disposed in a cup and a plate covering the cup. The temperature sensor has a switch with a switch housing attached to the cup and stationary contacts affixed to the switch housing and at least one movable switching contact

that cooperates with the stationary contacts. The temperature sensor further includes a rod made of at least two sections, and a tube having two ends and extending in a direction essentially parallel to the plate through at least one thermally insulating wall of the cup into a hollow space formed between the cup and the plate. One end of the tube is connected with the switch housing and the other end of the tube is closed off and operatively connected to a first of the at least two sections of the rod. A second of the at least two sections of the rod extends into the switch housing and operates the movable switching contact. The second section of the rod terminates outside the hollow space of the cup.

The tube and the rod have different thermal expansion coefficients. The product of the thermal expansion coefficient of the second section of the rod and a length of the second section located in the switch housing are selected based on a product of the thermal expansion coefficient of the switch housing and a length of the switch housing between a side of the switch housing facing the cup and support members of the stationary switch contacts in a direction parallel to the rod.

There are important differences between the invention as recited in claim 1 and the device for controlling or limiting temperature in an electric cooking appliance disclosed in the '993 patent to McWilliams.

The present invention recites a rod made of two sections, whereas the '993 patent discloses a rod 46 and a separate transfer member 72. The '993 patent fails to address the thermal expansion coefficient of the transfer member 72, which the examiner equates with a section of the claimed rod. McWilliams also completely neglects the thermal expansion of the switch housing 44 or any part in the switch housing, which forms the central part of the present invention. The instant specification clearly states in paragraphs [0008] and [0009] that the thermal expansion of the housing is important for the accuracy of the switching point.

The '993 patent discloses tube portions 48, 50 in which rod 46 is housed. The tube portions 48, 50 extend over two different heating elements 22, 24 defining separate heating areas for the cooking appliance. The thermal expansion

coefficients κ_i of the rod 46 and the two tube portions 48, 50 are selected such that $\kappa_{(\text{Tube portion 50})} < \kappa_{(\text{Tube portion 48})} < \kappa_{(\text{Rod 46})}$. However, the McWilliams does not teach or suggest to consider the relative length of the tube portions 48, 50 and the rod 46.

Even if, as the office action asserts, the product of the thermal expansion coefficient of a particular section of the rod and the length of that section is an inherent property of the material and dimensions, McWilliams still fails to teach the importance of the housing and the rod section inside the housing. More particularly, nowhere does McWilliams teach or suggest that the product of the thermal expansion coefficient of the second section of the rod and a length of the second section located in the switch housing is selected based on a product of the thermal expansion coefficient of the switch housing and a length of the switch housing between a side of the switch housing facing the cup and support members of the stationary switch contacts in a direction parallel to the rod, as recited in claim 1. With the present invention, a shift of the switching point due to the thermal expansion of the switch housing is essentially eliminated.

Applicant has reviewed the other cited references, but none of the references teaches or suggests the importance of the switch housing in selecting the relative thermal expansion coefficients of the rod sections or the tube. In fact, the examiner admits that neither Petri nor Bowling address the thermal expansion of the switch housing.

The examiner is invited to submit a reference to substantiate his assertion that inclusion of the thermal expansion of the housing would be obvious, as this feature is not suggested by any of the references.

For the reasons set forth above, it is applicant's contention that McWilliams neither teaches nor suggests the features of the present invention, as recited in claim 1.

As for the rejection of the retained dependent claims, these claims depend on claim 1, share its presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Applicant believes that when reconsidering the claims in the light of the above comments, the Examiner will agree that the invention is in no way properly met or anticipated or even suggested by any of the references however they are considered.

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Applicant further submits a certified copy of the priority document under 35 U.S.C. §119(a)-(d).

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

By: 

Henry M. Feiereisen
Agent For Applicant
Reg. No: 31,084

Date: May 23, 2006
350 Fifth Avenue
Suite 4714
New York, N.Y. 10118
(212)244-5500
HMF/WS:af